



**CORPUS CHRISTI  
CATHOLIC SCHOOL**

# Science Policy

September 2021

**MISSION STATEMENT**

Corpus Christi Catholic School is a welcoming, vibrant and diverse community with the Christian values of respect, equality and love for all at its core.

We aim to nurture, motivate, educate and to inspire all children to become lifelong learners and to achieve the best that they can.

Following the example of Jesus, we uphold our school motto: To Learn, To Live, To Love.

Discere Vivere Amare



CORPUS CHRISTI CATHOLIC SCHOOL

**POLICY STATEMENT:**

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Date	Review Date	Subject Leader	Nominated Governor
September 2021	September 2024	Mrs. Catherine Kerr	Biba Dow

The purpose of this policy is to provide a useful guide for teaching Science in Corpus Christi School. Science is a body of knowledge built up through experimental testing of ideas. It allows children to use practical ways of finding out about the world around us. Science in our school has a strong focus on science investigations and the teaching of relevant skills within each topic underpinned by a relevant knowledge based which is also taught in lessons. We aim to develop children’s ideas and ways of working that enable them to make sense of the world in which they live through acquiring knowledge, building on prior learning and using applying this in investigations, as well as applying scientific skills.

**CURRICULUM AIMS AND OBJECTIVES:**

**Aims**

The national curriculum for science aims to ensure that all pupils: develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. To develop understanding of the nature, processes and methods of science through different types of science enquiries that helps them to answer scientific questions about the world around them. Ensure that they are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

At Corpus Christi School we aim to ensure that all children:

- develop pupil enjoyment and interest in science and an appreciation of its contribution to all aspects of everyday life.
- build on pupil curiosity and sense of awe of the natural world.
- use a planned range of investigations and practical activities to give pupils a greater understanding of the concepts and knowledge of science.
- introduce pupils to the language and vocabulary of science.
- develop pupils practical skills and their ability to make accurate and appropriate measurements.
- develop pupils use of information and communication technology (ICT) in their science studies.

At Corpus Christi Primary School we take an approach of more doing, thinking and talking - as much practical applications and collaborative discussions where possible. This means a better use of lesson time to provide more meaningful opportunities for children to work scientifically and problem-solve. Improved scientific explanations by providing more opportunities for children to talk through and clarify their scientific thinking which in turn means greater understanding of scientific vocabulary in practical context. At the end of KS2 we envisage that children would have a greater understanding and some practise on setting up their own experiments to support them in second level science education.

We understand that it is important for lessons to have a skills-based focus, and that the knowledge can be taught through this. We encourage children to be inquisitive throughout their time at the school and beyond. Throughout the programmes of study, the children will acquire and develop the key knowledge that has been identified within each unit and across each year group, as well as the application of scientific skills. We ensure that the Working Scientifically skills are built-on and developed throughout children's time at the school so that they can apply their knowledge of science when using equipment, conducting experiments, building arguments and explaining concepts confidently and continue to ask questions and be curious about their surroundings.

### **Objectives:**

The following learning objectives are derived from the aims, above and are the basis of our decisions when planning a scheme of work.

#### To develop a knowledge and understanding of science and its processes

- To develop a knowledge and appreciation of the contribution made by famous scientists to our knowledge of the world including scientists from different cultures
- To encourage pupils to relate their scientific studies to applications and effects within the real world.

- To develop a knowledge of the science contained within the programmes of study of the National Curriculum.

To build on pupils' curiosity and sense of awe of the natural world

- To develop a general sense of enquiry which encourages them to question and make suggestions.
- To encourage pupils to predict the likely outcome of their investigations and practical activities or make plausible hypothesis.

To use a planned range of investigations and practical activities to give pupils a greater understanding of scientific facts and concepts

- To provide pupils with a wide range of investigations and practical work to give them a worth-while experience to develop their understanding of science.
- To progressively develop pupils' ability to plan, carry out and evaluate scientific investigations as is evident in the Corpus Christi Working Scientifically Big Book.

To develop the ability to record results in an appropriate manner including the use of diagrams, graphs, tables and charts

- To introduce pupils to the language and vocabulary of science.
- To give pupils regular opportunities to use the scientific terms and vocabulary necessary to communicate ideas about science. All vocabulary words during a unit of work are displayed in classrooms.
- To develop pupils practical skills and their ability to make accurate and appropriate measurements.
- Within practical activities give pupils opportunities to use a range of simple scientific measuring instruments, such as thermometers and force meters and develop their skill in being able to read them.

## LEGISLATION AND GUIDANCE

We believe this policy should be a working document that is fit for purpose, represents the school ethos, enables consistency and quality across the school and is related to the following legislation:

- Education Act 1996
- Education Act 1997
- Standards and Framework Act 1998
- Education (National Curriculum) (Temporary Exceptions for Individual Pupils) (England) Regulations 2000
- Education Act 2003
- Equality Act 2010

The following documentation is also related to this policy:

- The Education Inspection Framework (Ofsted 2019)
- An investigation into how to assess the quality of education through curriculum intent, implementation and impact (Ofsted 2018)
- Designing and Timetabling the Primary Curriculum - a practical guide for Key Stage 1 and 2 (Qualifications and Curriculum Authority 2002)
- Equality Act 2010: Advice for Schools (DfE)
- The National Curriculum in England Framework Document (DfE) 2014
- Race Disparity Audit - Summary Findings from the Ethnicity Facts and Figures Website (Cabinet Office)

## ORGANISATION AND PLANNING

### Strategies

#### Implementation of National Curriculum 2014

Teachers create a positive attitude to science learning within their classrooms and reinforce an expectation that all pupils are capable of achieving high standards in science. Our whole school approach to the teaching and learning of science involves the following;

#### The Early Years Foundation Stage

Understanding the world involves guiding children to make sense of their physical world and their community through opportunities to explore, observe and find out about people, places, technology and the environment.

#### Key Stage 1 and 2

- Science will be taught in planned and arranged topic blocks by the class teacher. This is a strategy to enable the achievement of a greater depth of knowledge.
- Through our planning, we involve problem solving opportunities that allow children to apply their knowledge, and find out answers for themselves. Children are encouraged to ask their own questions and be given opportunities to use their scientific skills and research to discover the answers. This curiosity is celebrated within the classroom. Planning involves teachers creating engaging lessons, often involving high-quality resources to aid understanding of conceptual knowledge. Teachers use precise questioning in class to test conceptual knowledge and skills, and assess pupils regularly to identify those children with gaps in learning, so that all pupils keep up.
- We build upon the knowledge and skill development of the previous years. As the children's knowledge and understanding increases, and they become more proficient in selecting, using scientific equipment, collating and interpreting results, they become more independent and increasingly confident in their growing ability to come to conclusions based on real evidence.
- Working Scientifically skills are embedded into lessons to ensure these skills are being developed throughout the children's school career and new vocabulary and challenging concepts are introduced through direct teaching. This is developed through the years, in-keeping with the topics.

Each class has a Working Scientifically Skills Big Book which travels with the class and is an evidence base of skills progressions. Input into the book can take a variety of forms depending on the investigation content. Teachers are encouraged to engage the children in verbal discussions and tactile experiences which can be recorded in a variety of ways – sketches, diagrams, thought bubbles, speech bubbles, video, photographs as well as more formal methods.

- Teachers demonstrate how to use scientific equipment, and the various Working Scientifically skills in order to embed scientific understanding. Teachers find opportunities to develop children's understanding of their surroundings by accessing outdoor learning such as the church garden or local parks and workshops with experts e.g. London Zoo.
- Children are offered a wide range of extra-curricular activities, visits, trips and visitors to complement and broaden the curriculum. These are purposeful and link with the knowledge being taught in class.
- Regular events, such as Science Week or The Year 3 Science Evening which allow all pupils to come off-timetable, to provide broader provision and the acquisition and application of knowledge and skills.

## REMOTE LEARNING

Teachers in each year group will together develop contingency plans to deliver the science curriculum to pupils if remote learning is required.

Contingency plans will be available on the year group google page and will:

- Use a curriculum sequence that allows access to high-quality online and offline resources and teaching videos and that is linked to the school's curriculum expectations
- Give access to high quality remote education resources
- Make use of the online tools that are consistently used across the school in order to allow interaction, assessment and feedback to pupils
- Provide printed resources, such as textbooks and workbooks, for pupils who do not have suitable online access
- Be inclusive of SEND pupils and their families

## DIFFERENTIATION

Activities should be planned to meet the needs of all pupils. Differentiation is achieved through careful planning and organisation. Learners should be supported and challenged to progress within Science. Differentiation enables all students to engage in the curriculum by providing learning tasks and activities that are tailored to their needs and abilities.

## ASSESSMENT FOR LEARNING

The programme of study takes is responsive to the children's starting points, as well as their specific interests. It also ensures a focus on the key identified knowledge of each topic, which is mapped within and across year groups to ensure progression. At the end of each blocked science topic, this key knowledge is checked. Outcomes of work also evidence its acquisition. In EYFS, we assess the children's Understanding of the World statements.

Children's progress is continually monitored throughout their time at Corpus Christi School and is used to inform future teaching and learning. By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study as set out in the National Curriculum. These are set out as statutory requirements. We also draw on the non-statutory requirements to extend our children and provide an appropriate level of challenge.

Assessment for learning is continuous throughout the planning, teaching and learning cycle. To make a valid assessment of children's practical science skills, a teacher needs to draw on a body of evidence collected over time. However, some of these skills are only evident when children are talking in small groups or a class discussion, and some children do not have literacy skills to match their science skills and successfully record their ideas, predictions or findings in science. While children are more formally assessed half termly in KS1 and KS2 using a variety of methods, such assessments are based on teacher assessment which is underpinned by:

- Observing children at work, individually, in pairs, in a group, and in classes.
- Questioning, talking and listening to children
- Considering work/materials / investigations produced by children together with discussion about this with them. In line with the KWL strategy, children identify what they know already about each topic, as well as what they would like to know.
- Considering children's knowledge, observations in lessons and on the Working Scientifically Skills as evident in the Working Scientifically Skills book.

## MONITORING ARRANGEMENTS

It is the responsibility of the Science coordinator to monitor the standards of children's work and the quality of teaching science. The subject coordinator is also responsible for supporting colleagues in their teaching, for being informed about current developments in science and providing a lead in direction of science in the school. Standards will be monitored by:

- looking at pupils' work
- subject observations
- pupil discussions
- audit of subjects
- scrutiny of planning
- general curriculum discussions

## INCLUSION

Corpus Christi aims to ensure that Science is accessible to all pupils, regardless of race, gender, ethnicity, socio-cultural background or ability. In order to achieve this, class teachers will need to consider the following:

- Ensure that material and resources are easily accessible to all pupils.
- Differentiate activities to ensure that the needs of all pupils are being met.
- Build in opportunities to extend all children and encompass G&T children.

We believe that we are an educationally inclusive school as we are concerned about the teaching and learning, achievements, attitudes and well-being of all our pupils. We aim to provide places for all pupils who express a preference to join this school.

We work hard to offer equality of opportunity and diversity to all groups of pupils within school such as children:

- from both sexes;
- who have Special Educational Needs;
- who are looked after;
- from minority faiths, ethnicities, travelers, asylum seekers, refugees;
- who are gifted and talented;
- who are at risk of disaffection;
- who are young carers;
- who are sick;
- who have behavioural, emotional and social needs;
- from families who are under stress

We believe we have a duty to ensure that all children have equal rights to the opportunities offered by education and that all children will be encouraged to fulfil their potential in their academic, physical and creative achievements.

We want to give all children the right to access high quality educational experiences, to take part in a broad and balanced curriculum and to be part of the social life of the school.

We recognise that within the school we have more able, gifted and talented children. We believe that:

- more able children demonstrate a higher ability than average for the class and often require differentiated tasks and opportunities to learn through challenges;
- gifted children are those who have the ability to do well in more than one subject;
- talented children demonstrate an innate talent or skill in creative, cultural or sporting fields

We have an even greater obligation to plan and deliver well-structured lessons with appropriate assessment plus ambitious targets for pupils who have low levels of prior attainment or come from disadvantaged backgrounds.

Also, we have a duty to cater for pupils whose first language is not English by planning teaching opportunities to help them develop their English and to gain full access to the National Curriculum.



## TRAINING

All school personnel:

- have equal chances of training, career development and promotion
- receive training on this policy on induction which specifically covers:
  - National Curriculum programmes of study and attainment targets for all subjects
  - Curriculum
  - Teaching and learning
  - Planning
  - Differentiation
  - Assessment
  - Monitoring and Evaluation
  - Special Educational Needs
  - Academically More Able, Gifted and Talented Pupils
  - Key skills
- receive periodic training so that they are kept up to date with new information
- receive equal opportunities training on induction

## ROLES AND RESPONSIBILITY FOR THE POLICY

### Role of the Governing Body

The Governing Body has:

- appointed a member of staff to be responsible for the curriculum leadership of English;
- delegated powers and responsibilities to the Co-headteachers to ensure all school personnel and stakeholders are aware of and comply with this policy;
- responsibility for ensuring compliance with the legal requirements of the National Curriculum;
- responsibility for ensuring that the school complies with all equalities legislation;
- nominated a designated Equalities governor to ensure that appropriate action will be taken to deal with all prejudice related incidents or incidents which are a breach of this policy;
- responsibility for ensuring funding is in place to support this policy;
- responsibility for ensuring this policy and all linked policies are maintained and updated regularly;
- responsibility for ensuring all policies are made available to parents;
- the responsibility of involving the School Council in:
  - determining this policy with the Governing Body;
  - discussing improvements to this policy during the school year;
  - organising surveys to gauge the thoughts of all pupils;
  - reviewing the effectiveness of this policy with the Governing Body
- nominated a link governor to:
  - visit the school regularly;
  - work closely with the Co-Headteachers and the coordinator;
  - ensure this policy and other linked policies are up to date;

- ensure that everyone connected with the school is aware of this policy;
- attend training related to this policy;
- report to the Governing Body every term;
- annually report to the Governing Body on the success and development of this policy.

## Role of the Co-Headteachers

The Co-Headteachers will:

- work in conjunction with the Senior Leadership Team to ensure all school personnel, pupils and parents are aware of and comply with this policy;
- ensure teachers:
  - 'have good knowledge of the subject(s) and courses they teach;
  - have effective support for those teaching outside their main areas of expertise;
  - present subject matter clearly, promoting appropriate discussion about the subject matter they are teaching;
  - check learners' understanding systematically, identify misconceptions accurately and provide clear, direct feedback and in doing so, they respond and adapt their teaching as necessary, without unnecessarily elaborate or differentiated approaches;
  - design their teaching to help learners to remember in the long term the content they have been taught and to integrate new knowledge into larger concepts;
  - use assessment well in order to help learners embed and use knowledge fluently or to check understanding and inform teaching;
  - create an environment that allows the learner to focus on learning;
  - develop a rigorous approach to the teaching of reading in order to develop learners' confidence and enjoyment in reading;
  - use reading materials at the early stages of learning to read that are closely matched to learners' phonics knowledge'. (Amended from the 'Education Inspection Framework' (Ofsted 2019)
- work closely with the curriculum leader, subject leaders and the link governor;
- ensure compliance with the legal requirements of the National Curriculum;
- consider disapplying a pupil from all or part of the National Curriculum for a period of time if this will benefit the child;
- encourage parents to take an active role in curriculum development;
- provide leadership and vision in respect of equality;
- provide guidance, support and training to all staff;
- monitor the effectiveness of this policy by;
  - observing teaching and learning
  - planning scrutinies and work trawls
  - discussions with pupils and members of the school council
  - annually report to the Governing Body on the success and development of this policy

## Role of the Subject Leader

The Subject Leader will:

lead the development of this policy throughout the school;

- work closely with the Co-Headteachers, the nominated governor and SENCO;

- promote the teaching of numeracy and literacy within all subjects;
- be accountable for standards in this subject area;
- monitor standards by:
  - auditing the subject area
  - review of the scheme of work
  - monitoring teachers planning
  - lesson observations
  - scrutinising children's work
  - discussions with pupils
- work in conjunction with the Headteacher, Senior Leadership Team Leader, teaching and support personnel to provide statements on each of the following:

We...		Evidence
<b>Intent</b>	have constructed a 'curriculum that is ambitious and designed to give all learners the knowledge and cultural capital they need to succeed in life' by:	ensuring that scientific knowledge is built on year on year and also recapped so that there is clear progression and retention.
	provide a curriculum that is 'coherently planned and sequenced towards cumulatively sufficient knowledge and skills for future learning and employment' by:	ensuring that objectives are covered more than once, with opportunities to apply these several times over the course of a year. Prior knowledge is consolidated from previous years, supporting children to think deeply and develop skills with depth.
	have the 'same academic, technical or vocational ambitions for almost all learners and we have designed an ambitious curriculum to meet the needs of some learners with high levels of SEND' by:	ensuring that planning sequences, peer and adult support in Science are adapted, personalised and differentiated to ensure access arrangements can be made to meet the needs of all learners.
	ensure 'learners study the full curriculum 'specialising' only when necessary' by:	Placing skills at the core; allowing teachers to use investigating, predicting, observing, recording, as the context for the requirements of the national curriculum; also embedding knowledge into the awe and wonder part of Science.
<b>Implementation</b>	ensure 'teachers have good knowledge of the subject(s) and courses they teach' by;	providing relevant staff training; monitoring teaching and learning. Ensuring the subject Lead has regular CPD and links with subject specialists. We have a link with a local secondary school

provide 'effective support for those teaching outside their main areas of expertise' by:	providing relevant staff training; monitoring teaching and learning; opportunities for sharing good practice.
ensure 'teachers present subject matter clearly, promoting appropriate discussion about the subject matter they are teaching' by:	providing relevant staff training; monitoring teaching and learning; opportunities for sharing good practice.
ensure teachers 'check learners' understanding systematically, identify misconceptions accurately and provide clear, direct feedback' by:	providing opportunities for formal and informal assessments; ensuring the 'feedback and marking' policy is evidenced.
ensure teachers 'respond and adapt their teaching as necessary, without unnecessarily elaborate of differentiated approaches by:	equipping teachers with appropriate support and resources; creating a collaborative and consistent approach amongst teaching teams.
ensure 'over the course of study, teaching is designed to help learners to remember in the long term the content they have been and to integrate new knowledge into larger concepts' by:	providing opportunities for learners to recap prior learning; utilising a variety of techniques to support long term memory acquisition. Using Interleaving and memory techniques to test recall and promote long term memory.
ensure assessment is used well in order to 'help learners embed and use knowledge fluently or to check understanding and inform teaching' by:	Using Hinge Questions to check for current understanding and AfL. Providing opportunities for formal and informal assessments; ensuring the 'Feedback and Marking' policy is evidenced.
ensure 'the resources and materials that teachers select reflect the provider's ambitious intentions for the course of study and clearly support the intent of a coherently planned curriculum, sequenced towards cumulatively sufficient knowledge and skills for future learning and employment' by:	ensuring that science topics are well resourced and have a focus on investigative skills and questioning as well as knowledge and understanding. Secondary School link is very supportive for providing resources and sharing expertise.
'understand the limitations of assessment and do not use it in a way that creates unnecessary burdens for staff or learners' by:	ensuring that assessment informs planning and teaching; following the school's assessment cycle.

<b>Impact</b>	ensure 'teachers create an environment that allows the learner to focus on learning' by:	Ensuring that Science lessons are well managed, well resourced and carefully planned so that learners are motivated. Also ensuring that safety is paramount in all investigative science lessons.
	ensure 'learners are ready for the next stage of education, employment or training' by:	utilising a carefully planned curriculum to equip every learner with the necessary skills and knowledge needed to access and further their learning. Ultimately, ensuring they have been given equal access to the opportunities and tools to become their best selves as they progress into the wider world.

(Quotes taken from the Education Inspection Framework (Ofsted 2019))

- ensure continuity and progression throughout the school;
- devise a subject improvement plan;
- provide guidance and support to all staff;
- provide training for all staff on induction and when the need arises regarding;
- attend appropriate and relevant INSET;
- keep up to date with new developments;
- undertake an annual audit and stock take of resources;
- purchase new resources when required and in preparation for the new academic year;
- manage the subject budget effectively;
- undertake risk assessments when required;
- review and monitor;
- annually report to the Governing Body on the success and development of this policy.

## Role of Teachers

Teachers will:

- comply with all aspects of this policy;
- work closely with the subject leader to develop this policy;
- devise medium and short term planning;
- plan and deliver good to outstanding lessons;
- plan differentiated lessons which are interactive, engaging, of a good pace and have a three part structure;
- have high expectations for all children and will provide work that will extend them;
- assess, record and report on the development, progress and attainment of pupils;
- achieve high standards;
- celebrate the success of pupils in lessons
- implement the school's equalities policy and schemes;
- report and deal with all incidents of discrimination;
- attend appropriate training sessions on equality;

- report any concerns they have on any aspect of the school community.

## Role of Pupils

Pupils will:

- be aware of and comply with this policy (in an age appropriate form);
- be encouraged to work in partnership with the school by making decisions and exercising choice in relation to their educational programme;
- listen carefully to all instructions given by the teacher;
- ask for further help if they do not understand;
- participate fully in all lessons;
- participate in discussions concerning progress and attainment;
- treat others, their work and equipment with respect;
- support the school Code of Conduct and guidance necessary to ensure the smooth running of the school;
- liaise with the school council;
- take part in questionnaires and surveys

## Role of Parents/Carers

Parents/carers will:

- be aware of and comply with this policy as it applies to them;
- be encouraged to take an active role in the life of the school by attending:
  - parents and open evenings
  - parent-teacher consultations
  - curriculum development workshops
- be encouraged to assist in school as volunteers;
- be encouraged to respond to curriculum information newsletters;
- be informed via termly newsletters of their child's topics;
- asked to provide suggestions and ideas for improving this subject;
- be asked to take part periodic surveys conducted by the school on curriculum development;
- be invited to make presentations to pupils on aspects of this subject area;
- encourage effort and achievement;
- encourage completion of homework and return it to school;
- provide the right conditions for homework to take place;
- expect their child to hand in homework on time;
- join the school in celebrating success of their child's learning.

## LINKS TO OTHER POLICIES

- Academically More Able, Gifted and Talented Pupils
- Assessment
- Curriculum
- Curriculum Intent, Implementation and Impact

- Differentiation
- English as an Additional Language (EAL)
- Monitoring and Evaluation
- Self-Evaluation and School Improvement
- Special Educational Needs
- Teaching and Learning

**Confirmation of policy:**

**Corpus Christi School**

Subject Lead: *Mrs Catherine Kerr*

Link Governor: Ms B Dow

Date to be reviewed: September 2021